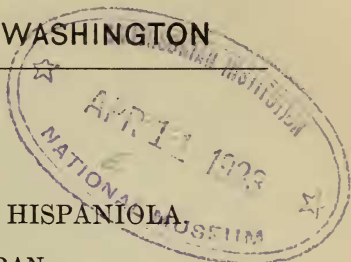


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TWO NEW LIZARDS FROM HISPANIOLA

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The excavation of cave deposits in Haiti by members of the United States National Museum has resulted among other things in the discovery of rich accumulations of bones of extinct mammals and birds. The collecting of living animals, especially reptiles and amphibians, was more or less an incidental activity to the excavators, although it has proved to be important herpetologically in several instances. The limestone caves of Samaná Bay in the Dominican Republic yielded a remarkable new *Sphaerodactylus* as proof of the collecting skill of Mr. Gerrit S. Miller, Jr. At his instigation and direction excavations on Gonave Island were undertaken in 1929 by Mr. A. J. Poole and Mr. Watson M. Perrygo, and of the several kinds of lizards they secured there one merits subspecific separation from the recognized form common on the mainland of Hispaniola.

*Sphaerodactylus samanensis*, new species.

*Diagnosis*.—Dorsals imbricate; no differentiated middorsal zone; dorsals keeled, 7 or 8 (in adults) in standard distance; scales of posterior malar region faintly keeled; scales of gular region, chest and belly smooth; body with six wide clove-brown bars arranged in pairs, the interscapular pair enclosing two white spots; a dark frontal spot usually present; occiput usually crossed by two dark crescentic markings.

*Type*.—U. S. N. M. No. 74970, an adult male from Boca del Infierno, Samaná Bay, Dominican Republic, collected on February 28, 1928, by Gerrit S. Miller, Jr.

*Description of the type*.—Snout moderately short and broad, its length about twice the diameter of the eye; eye slightly nearer ear than tip of snout; rostral large, with a median groove behind; nostril between rostral, one large supranasal, two postnasals and the first supralabial; supranasals broadly in contact behind the rostral; superciliary spine moderate in size; three large supralabials, the third longest and extending past the center

of the eye, followed by a very minute fourth supralabial not much larger than the granules surrounding it; three infralabials, the first much the largest; head above with granular, distinctly keeled, non-imbricating scales which are conspicuously enlarged on the snout; scales of back large, keeled, tectiform, imbricating, about eight equalling the distance from tip of snout to center of eye, not perfectly uniform in size and shape, the large ones not extending forward beyond the shoulders; no middorsal granular zone; mental large, followed by two enlarged postmentals; scales of gular region very small, smooth, imbricate; scales below the posterior infralabials and on posterior malar region larger, faintly keeled, juxtaposed; scales of chest and belly smooth, rounded, slightly smaller than dorsals, about nine ventrals to the standard distance; scales of limbs enlarged, keeled and imbricate above, smooth below, very small posteriorly; 13 smooth lamellae under the fourth toe; scales of tail large, faintly keeled, imbricating, very irregular in size and shape above, without definite whorls but enlarged into smooth transverse and fairly regular plates below.

*Dimensions*.—Head and body, 27 mm.; tail, 25 mm.; width of head, 5 mm.; tip of snout to ear, 7 mm.; fore leg, 7 mm.; hind leg, 10 mm.

*Coloration in alcohol*.—Upper surfaces sepia; body with six wide, clove-brown bars arranged in pairs, the anterior pair between the shoulders and enclosing two very conspicuous round white spots; tail with about eight transverse, unpaired, irregular, clove-brown crossbars; under parts pale drab, with cloudings of sepia on the throat and sides, and a few larger sepia spots beneath the tail; limbs sepia with a few scattered clove-brown dots above. Head sepia, lightening towards the snout.

*Paratypes*.—Three additional specimens, U. S. N. M. Nos. 74971–74973, come from the same locality and bear the same data as does the type.

*Variations*.—One of the paratypes has slightly larger dorsals—seven in the standard distance—than is the case in the type. The only immature individual has about 10 dorsals to the standard distance. The subdigital lamellae vary from 11 to 13. The only variation in the head plates comes in the shape and size of the two small post-nasals, and in the enlarged scales covering the top of the snout, which are slightly finer in the paratypes than in the type. The largest specimen is 28 mm. from snout to vent; the tail unfortunately is missing.

Judging from the four examples at hand, variation is slight in this species. Color pattern is highly similar in all, but brighter in the paratypes, and with two black crescent-shaped marks covering the occiput, and a large round frontal spot which gives off a black median line which goes forward to the rostral.

*Relationships*.—The new species seems to be intermediate between *Sphaerodactylus richardsonii* of Jamaica, and *S. macrolepis* found widely distributed in Mona, Vieques and Porto Rico as well as on some of the islands lying to the east of Porto Rico.

In coloration the new species is very close to *richardsonii*. The cross-bars are even more pronounced than they appear in the figure of *richardsonii* (Barbour, Mem. Mus. Comp. Zool., vol. 47, No. 3, 1921, plate 5, fig. 3), but are essentially similar in arrangement. The dark frontal spot, barely

suggested in the figure of *richardsonii*, is very prominent in three of the four examples of *samanensis*, while these three likewise possess two black crescent-shaped marks crossing the occiput. But in *macrolepis*, only a very partial resemblance in pattern may be traced with *samanensis*. There is no dark frontal spot in *macrolepis*; instead, there is a prominent dark occipital spot, which often is bounded by longitudinal markings instead of transverse crescents as in *samanensis*. While the dark interscapular band containing the two white spots is found in both species, *macrolepis* is without the remaining dark paired bars on the body which occur in *samanensis*.

In details of scalation, however, *samanensis* is a little closer to *macrolepis* than to *richardsonii*. In fact, the smaller and more numerous labial plates of the Jamaican species, as well as the extremely small scales on top of the snout, serve at once to separate this species from *samanensis*. The number and proportions of the labial plates in *macrolepis*, however, are almost identical to those in *samanensis*. The supranasals in *samanensis* are larger and in mutual contact in the four examples at hand, although this character may prove to be unstable in this species, as it is known to be in *macrolepis*. The true difference between the two species is apparent on examining the dorsal scales. Not only are the enlarged dorsal scales appreciably smaller in *samanensis*, but they extend only as far forward as the shoulders, while in *macrolepis* they appear on the nuchal region, and give way to granular scales just behind the occiput itself.

***Anolis dominicensis caudalis*, new subspecies.**

1928. *Anolis distichus* (not of Cope) COCHRAN, Proc. Biol. Soc. Washington, vol. 41, Mar. 16, 1928, p. 54 (Pte. à Raquette, Gonave Island).

1930. *Anolis dominicensis* (not of Reinhardt & Lütken) BARBOUR, Bull. Mus. Comp. Zool., vol. 70, No. 3, Apr. 1930, p. 123 (Gonave Island).

*Diagnosis*.—Obviously close to *dominicensis* from the mainland of Hispaniola but distinguished from it by having a black shoulder patch bordered above and below by parallel light stripes, the lower continuing from below the ear to beyond the axilla; in having larger scales on the tail and a less pronounced scalloping of the crest; in not usually having a large pre-occipital, and finally in having on the average more scales in the median patch just anterior to the junction of the supraorbital semicircles.

*Description of the type*.—U. S. N. M. No. 76801, a male from En Café, Gonave Island, collected in March, 1929, by A. J. Poole and W. M. Perrygo. Head short, with two short and very weakly developed frontal ridges diverging forwards and becoming indistinct at a third of the distance from the eyes to the end of the snout; forehead slightly concave between these ridges; headscales smooth; rostral very low, narrower than the mentals; four to six scales between the nostrils, the inner two of these scales the foremost in a paired median series of rather rectangular, somewhat enlarged scales which are in contact as far as the concave region in front of the eyes where the series separate to enclose a patch of about 8 irregular scales; three scales of the supraorbital semicircles in contact behind this patch; occipital a little larger than the ear-opening, shield-shaped, barely in con-

tact with the supraorbital semicircles; no conspicuously enlarged pre-occipital; supraocular disk composed of six large, smooth, polygonal scales, separated from the semicircle by a row of scales reduced in size but not granular; one or two fairly large scales bordering the inner anterior edge of the superciliary, and separated from the supraocular disk by smaller scales; the scales in front of the supraocular disk all small but not granular; true granular scales behind the supraocular disk; canthus rostralis only moderately developed, the four enlarged scales which distinguish it distinctly keeled, projecting only slightly over the loreal region; superciliary ridge completely continuous with the scales of the canthus rostralis, composed of one very elongate and sharply keeled scale followed by a double series of small but differentiated tubercular scales, the anterior of which are separated from the supraocular disk by three or four rows of granules; loreal rows four; subocular semicircle keeled, broadly in contact with the upper labials; supralabials eight, the sixth directly below the center of the eye, the last two very small; temporal granules somewhat smaller than the median dorsals, with a double series of small scales forming the supra-temporal line; back and sides covered with granules, the dorsals a little larger and flatter, the laterals smaller and more tubercular; median dorsals only slightly larger than the rest of the dorsal granules; ventrals small, smooth, scarcely imbricate posteriorly, hexagonal, longer than broad; throat covered with small flat granules; forelegs covered with small smooth granules, about three series on the anterior face of the lower arm being greatly enlarged, more than twice as large as the largest ventrals; anterior scales of femur and tibia smooth, similarly enlarged, gradually diminishing posteriorly and below; scales covering hands and feet above perfectly smooth; digital expansion wide, about nineteen lamellae under second and third phalanges of fourth toe, about thirty-one under the whole toe; tail moderate, compressed, with very well-marked verticils consisting of vertical series of large squarish scales which are quite truncate at the tips, separated by five or six rows of slightly smaller scales on the sides of the tail; a slightly serrate crest on the tail, with four triangular, keeled and pointed scales, the first and fourth slightly smaller than the others which are subequal and the whole four corresponding to a verticil; skin of gular fan naked, set with distant series of flat crescent-shaped scales a little longer but much narrower than the ventrals; edge not thickened posteriorly; post-anal scales well developed. A nuchal fold, diminishing on the shoulders; a strong dorsal fold.

*Dimensions.*—Head and body, 41 mm.; tail defective; snout to posterior ear, 13 mm.; snout to center of eye, 8 mm.; width of head, 8 mm.; fore leg, 21 mm.; hind leg, 34 mm.

*Color (in alcohol).*—Above dark mouse gray; a slate-black elongate patch from ear to behind the shoulder, bordered below by a light stripe which begins below the ear and continues to beyond the axilla; above the black patch a similar light stripe parallel to the first, and beginning above the ear and fading out between the shoulders; a faint pale area on each side of the nuchal region; limbs and tail olive above, with dark sepia bars; lower surfaces immaculate olive buff excepting the throat which is heavily marbled with smoky gray, the skin of the gular fan being of the same hue.



*Variation.*—There may or may not be a median dorsal skin fold, depending upon the preservation. It is never very large, even at its best. In only one out of the ten Gonave Island lizards belonging to the U. S. National Museum is there a single large pre-occipital;—the others have from 2 to 6 small scales anterior to the occipital. Seven out of these ten have from five to eight small scales in the median group anterior of the junction of the supraorbital semicircles; there are four scales in two of the individuals, and two scales in only one individual. Thus the average seems to be considerably higher than in the mainland *Anolis dominicensis*, where two scales is the most constant condition. There are five crest scales to each verticil of the tail in the type of the new species, but the other six males in the national collection have only four scales, the first and fourth of which are only slightly smaller than the other two. There are but seven vertical lateral rows to a whorl in all but one specimen, which has eight. A direct comparison of the tails of Gonave Island and Hispaniolan lizards makes it at once evident that the former have much more coarsely scaled tails than do the latter, while there is less pronounced scalloping due to the greater uniformity of the crest scales.

The conspicuous black shoulder-patch set off by light lines above and below is apparently a constant feature of Gonave Island lizards, since every specimen shows the markings to varying degrees, even the females and young.

When I examined the Eyerdam specimens collected for the Museum of Comparative Zoology, I failed to attach sufficient importance to the slight variations noted in those particular specimens, which were the only ones from Gonave that I had seen at that time. The subsequent discovery by Dr. A. Wetmore of a distinct subspecies on Beata Island brought about a re-examination of the status of the Gonave Island form, while fresh material from different sources gave proof of the validity of its color pattern and of the arrangement of its caudal scales.

LIST OF SPECIMENS OF *Anolis dominicensis caudalis*.

U.S.N.M.

76799-800	En Café, Gonave Id.	Mar. 1929	A. J. Poole & W. Perrygo
76801	En Café, Gonave Id.	Mar. 1929	A. J. Poole & W. Perrygo Type of <i>A. d. caudalis</i>
77080-2	Pte. à Raquette, Gonave Id.	1927	W. J. Eyerdam
80386-9	Anse à Galets, Gonave Id.	Mar. 23, 1930	L. H. Parish & W. Perrygo
80390	Petite Gonave Id.	Mar. 23, 1930	L. H. Parish & W. Perrygo

M.C.Z.

13783-9	Gonave Id.	1919	G. M. Allen
25509-18	Pte. à Raquette, Gonave Id.	1927	W. J. Eyerdam
29046-50	Anse à Galets, Gonave Id.	Feb. 10, 1929	T. Barbour